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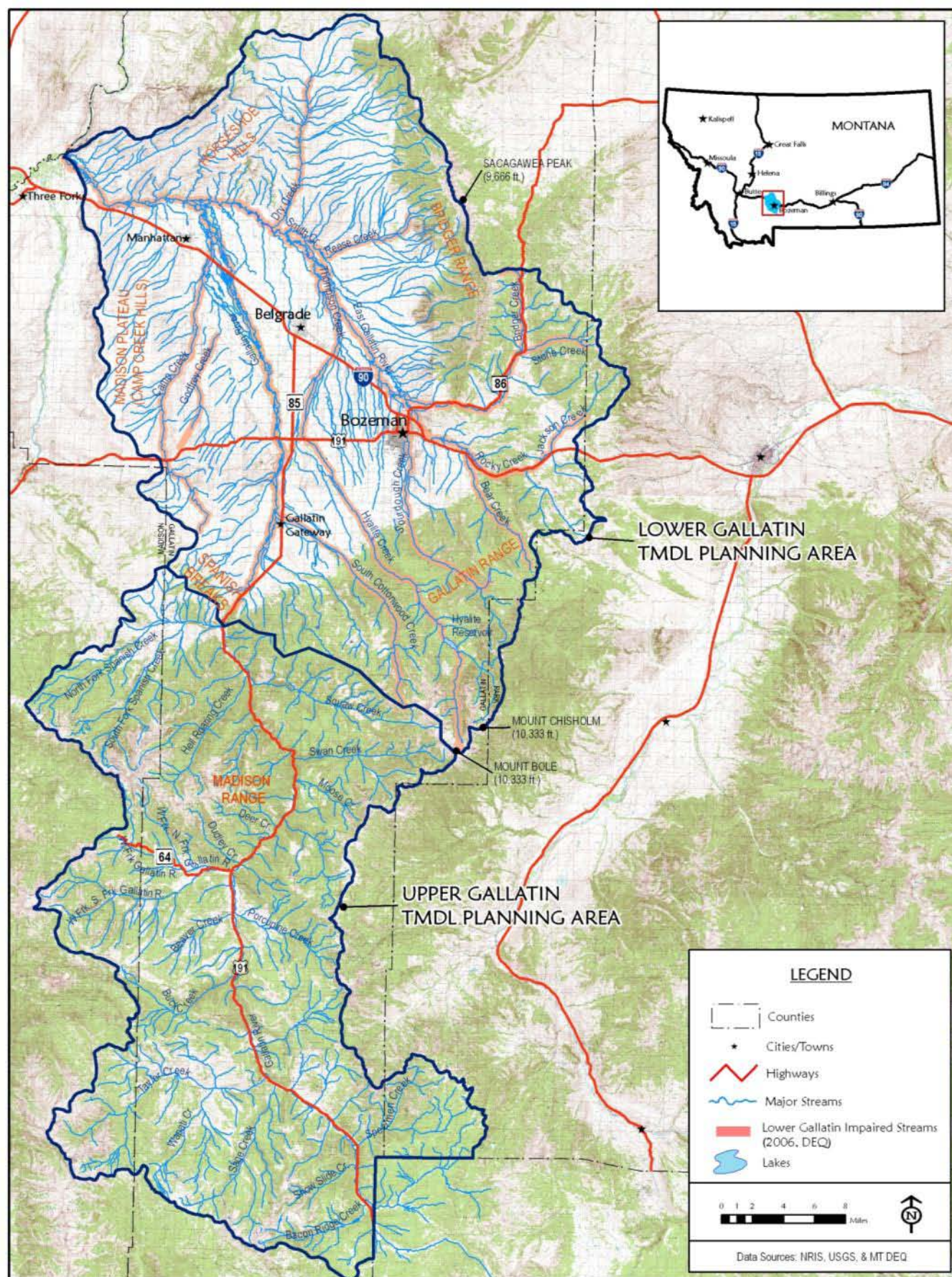


Figure A-1. Vicinity Map and 303(d) Listed Streams in the Lower Gallatin TMDL Planning Area.

Table A-1. 2012 303(d) Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Lower Gallatin Project Area

Water body & Location Description	Water Body ID	Impairment Cause	TMDL Pollutant Category	Impaired Uses ^a	Impairment Cause Status
BEAR CREEK, headwaters to mouth (Rocky Creek)	MT41H003_081	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Excess Algal Growth	Not a Pollutant	PRIMARY CONTACT RECREATION	Addressed by TP TMDL contained in this document
		Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	TP TMDL contained in this document
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document
		Solids (Suspended/Bedload)	Sediment	AQUATIC LIFE COLD WATER FISHERY INDUSTRIAL	Sediment TMDL contained in this document
BOZEMAN CREEK, confluence of Limestone Creek and Bozeman Creek to the mouth (East Gallatin River)	MT41H003_040	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL in this document
		Chlorophyll- <i>a</i>	Not a Pollutant	PRIMARY CONTACT RECREATION	Addressed by TN TMDL in this document
		<i>Escherichia coli</i>	Pathogens	PRIMARY CONTACT RECREATION	<i>E. coli</i> TMDL contained in this document
		Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	Not impaired based on 2011 assessment
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document
		Nitrogen (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	TN TMDL contained in this document
BRIDGER CREEK, headwaters to mouth (East Gallatin River)	MT41H003_110	Chlorophyll- <i>a</i>	Not a Pollutant	PRIMARY CONTACT RECREATION	Addressed by TN TMDL contained in this document
		Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT	Not impaired based on 2011 assessment

Table A-1. 2012 303(d) Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Lower Gallatin Project Area

Water body & Location Description	Water Body ID	Impairment Cause	TMDL Pollutant Category	Impaired Uses ^a	Impairment Cause Status
				RECREATION	
		Nitrogen (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	Impairment cause removed and replaced by Nitrate+Nitrite
CAMP CREEK, headwaters to mouth (Gallatin River)	MT41H002_010	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		<i>Escherichia coli</i>	Pathogens	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	<i>E. coli</i> TMDL contained in this document
		Low flow alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	Addressed by sediment TMDL contained in this document
		Nitrogen (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	TN TMDL contained in this document
		Other anthropogenic substrate alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Physical substrate habitat alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document
DRY CREEK, headwaters to mouth (East Gallatin River)	MT41H003_100	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Cause unknown	Not a Pollutant	PRIMARY CONTACT RECREATION	Not addressed in this document ^b
		Nitrogen (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	TN TMDL contained in this document
		Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	TP TMDL contained in this document
		Physical substrate habitat alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document

Table A-1. 2012 303(d) Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Lower Gallatin Project Area

Water body & Location Description	Water Body ID	Impairment Cause	TMDL Pollutant Category	Impaired Uses ^a	Impairment Cause Status
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document
EAST GALLATIN RIVER, confluence of Rocky and Bear Creeks to Bridger Creek	MT41H003_010	Nitrogen (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	TN TMDL contained in this document
		Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	TP TMDL contained in this document
EAST GALLATIN RIVER, Bridger Creek to Smith Creek	MT41H003_020	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Not yet addressed by a TMDL or restoration plan
		Excess Algal Growth	Not a Pollutant	PRIMARY CONTACT RECREATION	Addressed by TN and TP TMDLs contained in this document
		Low flow alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	Not yet addressed by a TMDL or restoration plan
		Nitrogen (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	TN TMDL contained in this document
		Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	TP TMDL contained in this document
		pH	Nutrients	AQUATIC LIFE COLD WATER FISHERY	Not impaired based on 2011 assessment
EAST GALLATIN RIVER, Smith Creek to mouth (Gallatin River)	MT41H003_030	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Not yet addressed by a TMDL or restoration plan
		Nitrogen (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	TN TMDL contained in this document
		pH	Nutrients	AQUATIC LIFE COLD WATER FISHERY	Not impaired based on 2011 assessment
GALLATIN RIVER, Spanish Creek to mouth (Missouri River)	MT41H001_010	Low flow alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION INDUSTRIAL	Not yet addressed by a TMDL or restoration plan
GODFREY CREEK, headwaters to mouth (Moreland Ditch)	MT41H002_020	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY AGRICULTURAL	Addressed by sediment TMDL contained in this document

Table A-1. 2012 303(d) Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Lower Gallatin Project Area

Water body & Location Description	Water Body ID	Impairment Cause	TMDL Pollutant Category	Impaired Uses ^a	Impairment Cause Status
		Excess Algal Growth	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY AGRICULTURAL	Addressed by TN and TP TMDLs contained in this document
		<i>Escherichia coli</i>	Pathogens	AQUATIC LIFE COLD WATER FISHERY AGRICULTURAL PRIMARY CONTACT RECREATION	<i>E. coli</i> TMDL contained in this document
		Nitrogen (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY AGRICULTURAL	TN TMDL contained in this document
		Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY AGRICULTURAL	TP TMDL contained in this document
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY AGRICULTURAL	Sediment TMDL contained in this document
HYALITE CREEK, headwaters to the top of Hyalite Reservoir	MT41H003_129	Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	Not yet addressed by a TMDL or restoration
		Total Nitrogen (TN)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	Not yet addressed by a TMDL or restoration
HYALITE CREEK, Hyalite Reservoir to the Bozeman water supply diversion ditch	MT41H003_130	Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	Not impaired based on 2011 assessment
		Total Nitrogen (TN)	Nutrients	AQUATIC LIFE COLD WATER FISHERY	Not impaired based on 2011 assessment
HYALITE CREEK, Bozeman water supply intake to the mouth (East Gallatin River)	MT41H003_134	Low flow alterations	Not a Pollutant	PRIMARY CONTACT RECREATION	Not yet addressed by a TMDL or restoration
JACKSON CREEK, headwaters to mouth (Rocky Creek)	MT41H003_050	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Chlorophyll- <i>a</i>	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT	Addressed by TP TMDL contained in this document

Table A-1. 2012 303(d) Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Lower Gallatin Project Area

Water body & Location Description	Water Body ID	Impairment Cause	TMDL Pollutant Category	Impaired Uses ^a	Impairment Cause Status
				RECREATION	
		Phosphorus (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	TP TMDL contained in this document
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document
REESE CREEK, headwaters to mouth (Smith Creek)	MT41H003_070	<i>Escherichia coli</i>	Pathogens	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	<i>E. coli</i> TMDL contained in this document
		Nitrates	Nutrients	AQUATIC LIFE COLD WATER FISHERY	Nitrate+Nitrite TMDL contained in this document
		Solids (Suspended/Bedload)	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document
ROCKY CREEK, confluence of Jackson and Timberline Creeks to mouth (East Gallatin River)	MT41H003_080	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Other anthropogenic substrate alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Physical substrate habitat alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document
SMITH CREEK, confluence of Ross and Reese Creeks to mouth (East Gallatin River)	MT41H003_060	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		<i>Escherichia coli</i>	Pathogens	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	<i>E. coli</i> TMDL contained in this document
		Nitrates	Nutrients	AQUATIC LIFE	Nitrate+Nitrite TMDL

Table A-1. 2012 303(d) Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Lower Gallatin Project Area

Water body & Location Description	Water Body ID	Impairment Cause	TMDL Pollutant Category	Impaired Uses ^a	Impairment Cause Status
				COLD WATER FISHERY	contained in this document
		Physical substrate habitat alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document
SOUTH COTTONWOOD CREEK, Middle Creek Assoc Ditch diversion to mouth (Gallatin River)	MT41H002_031	Low flow alterations	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	Not yet addressed by a TMDL or restoration plan
STONE CREEK, headwaters to mouth (Bridger Creek)	MT41H003_120	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document
THOMPSON CREEK (Thompson Spring), headwaters to mouth (East Gallatin River)	MT41H003_090	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	AQUATIC LIFE COLD WATER FISHERY	Addressed by sediment TMDL contained in this document
		Chlorophyll- <i>a</i>	Not a Pollutant	PRIMARY CONTACT RECREATION	Addressed by TN TMDL contained in this document
		Nitrogen (Total)	Nutrients	AQUATIC LIFE COLD WATER FISHERY PRIMARY CONTACT RECREATION	TN TMDL contained in this document
		Sedimentation/Siltation	Sediment	AQUATIC LIFE COLD WATER FISHERY	Sediment TMDL contained in this document

^a All Cold Water Fishery and Warm Water Fishery impairments will be combined with Aquatic Life use impairment, starting with the 2012 IR (i.e., only “Aquatic Life” will appear in the IR).

^b Cause Unknown for Dry Creek linked to high fecal coliform counts in 1970s in assessment file; not enough data to make a final assessment; future monitoring for *E. coli* has been advised

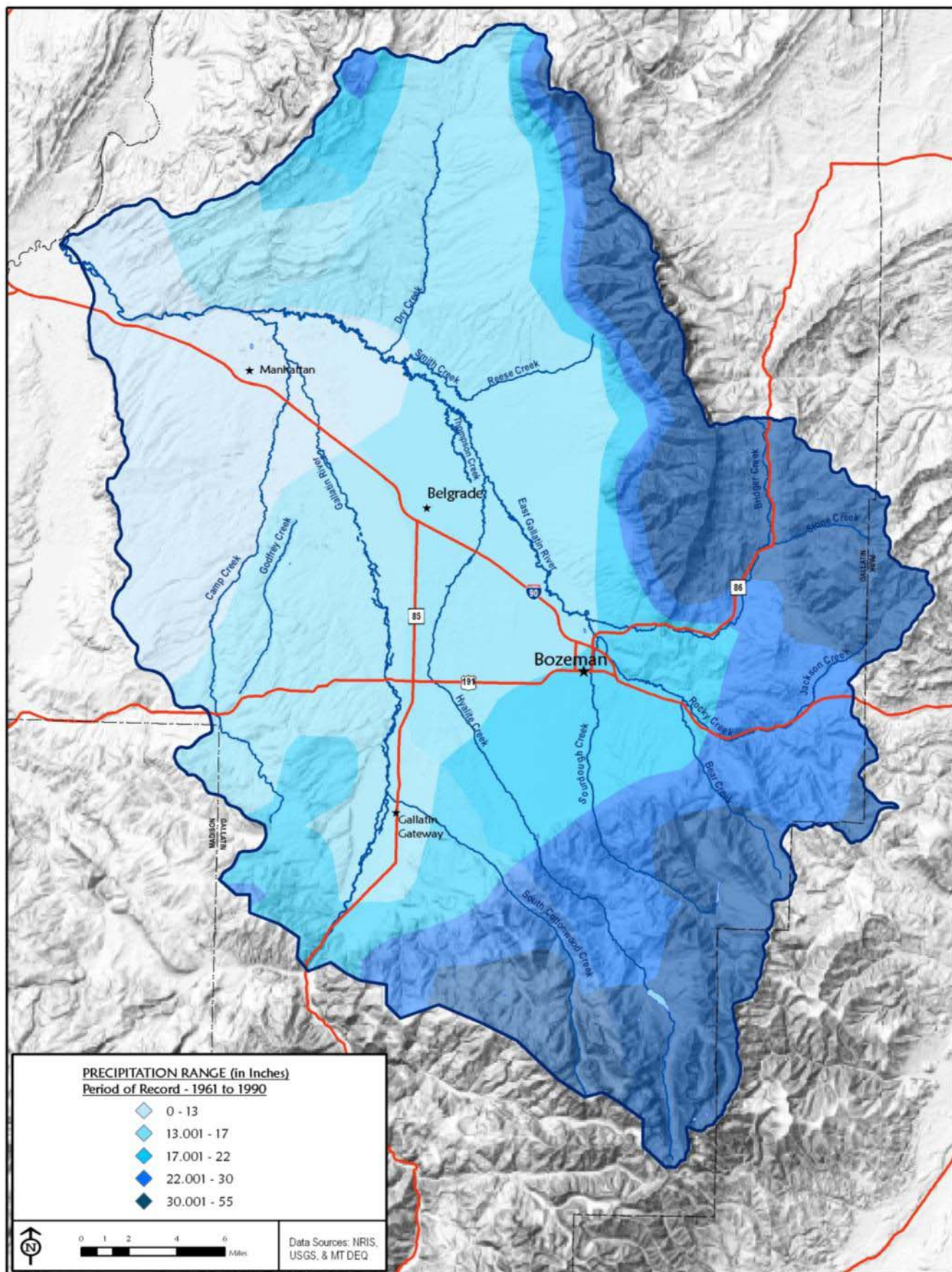


Figure A-2. Precipitation in the Lower Gallatin TMDL Planning Area

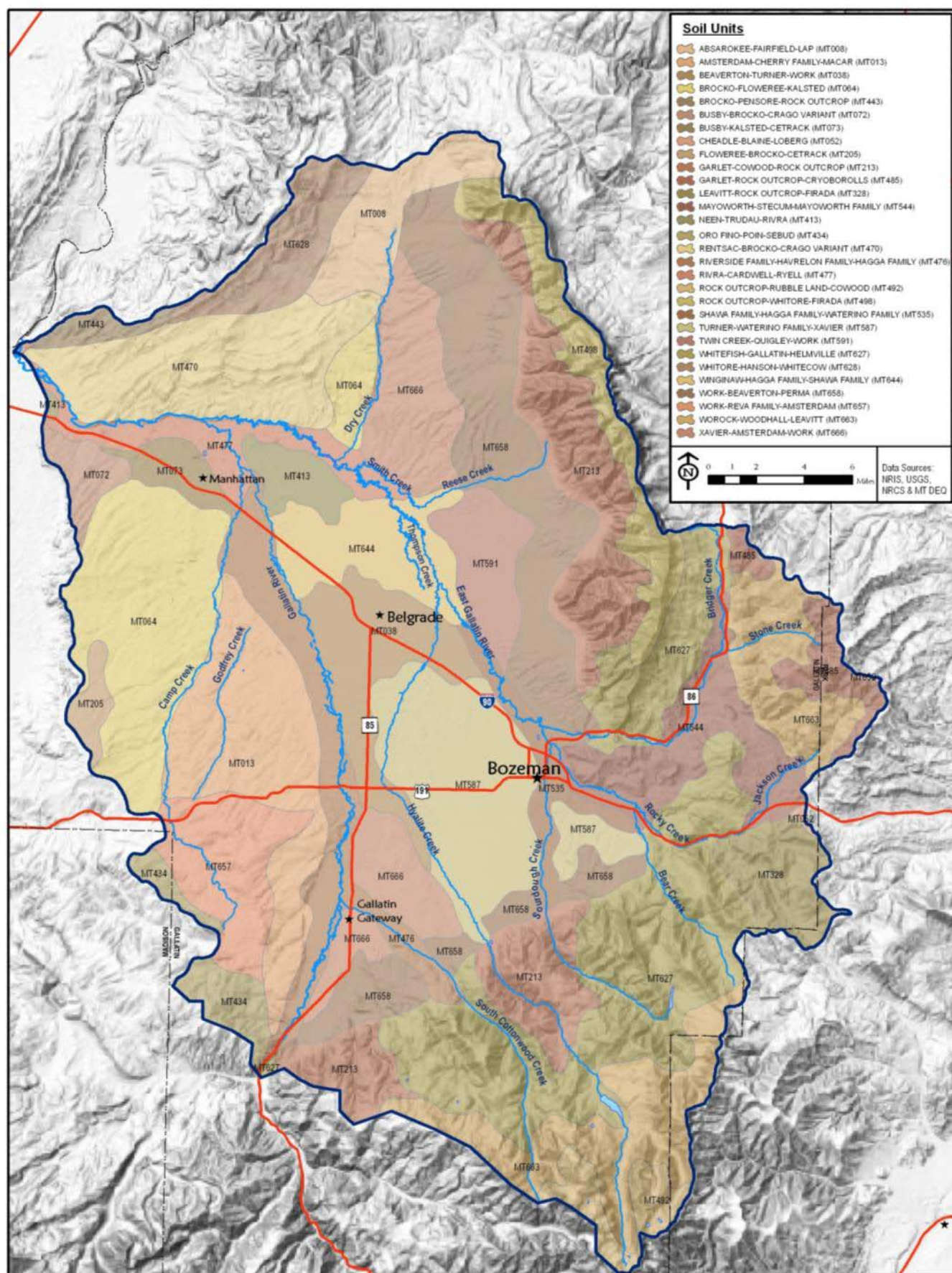


Figure A-4. Soil Units of the Lower Gallatin TMDL Planning Area

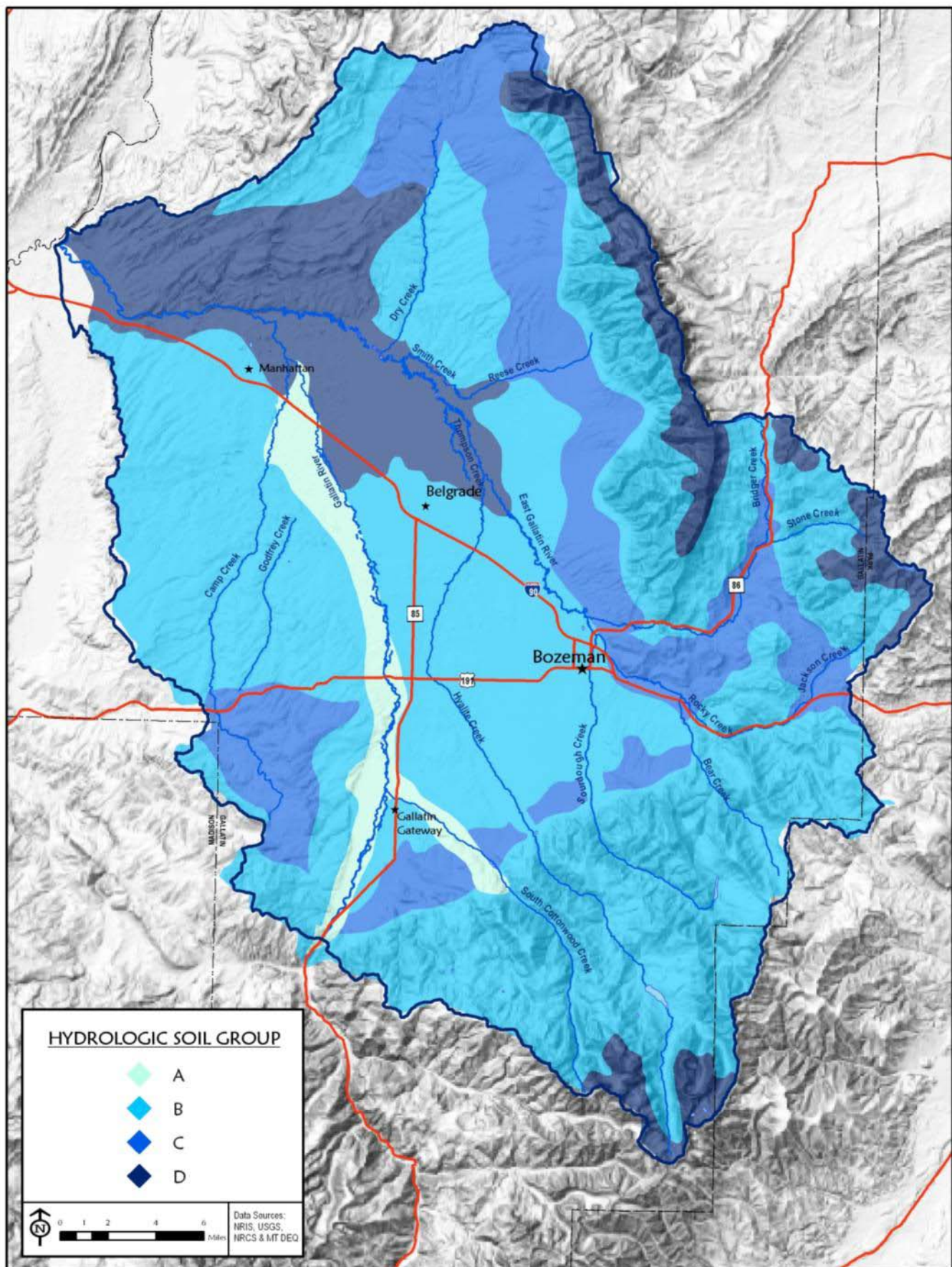


Figure A-5. Hydrologic Soil Groups in the Lower Gallatin TMDL Planning Area

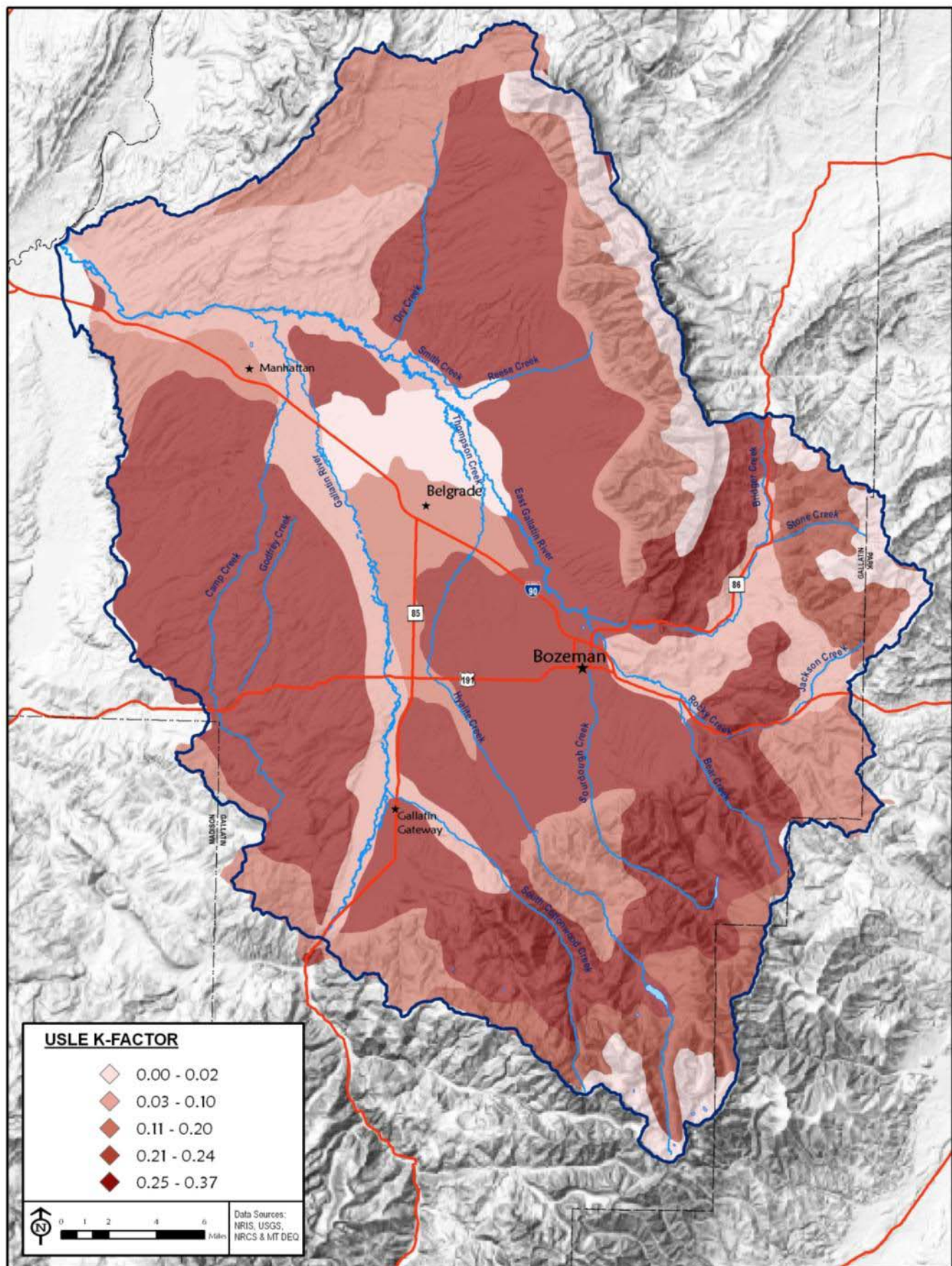


Figure A-6. Universal Soil Loss Equation (USLE) Factor "K" in the Lower Gallatin TMDL Planning Area

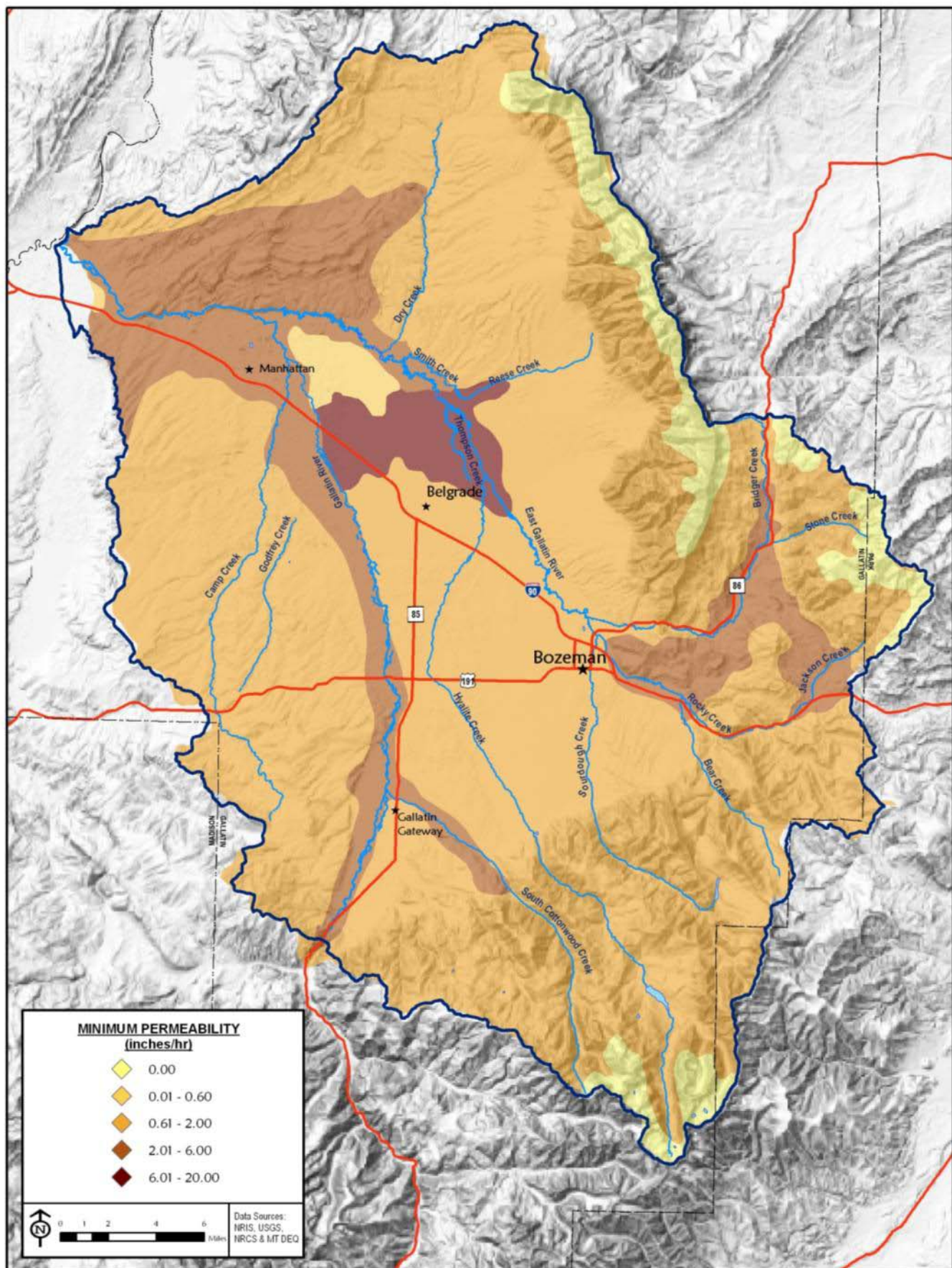


Figure A-7. Soil Permeabilities in the Lower Gallatin TMDL Planning Area

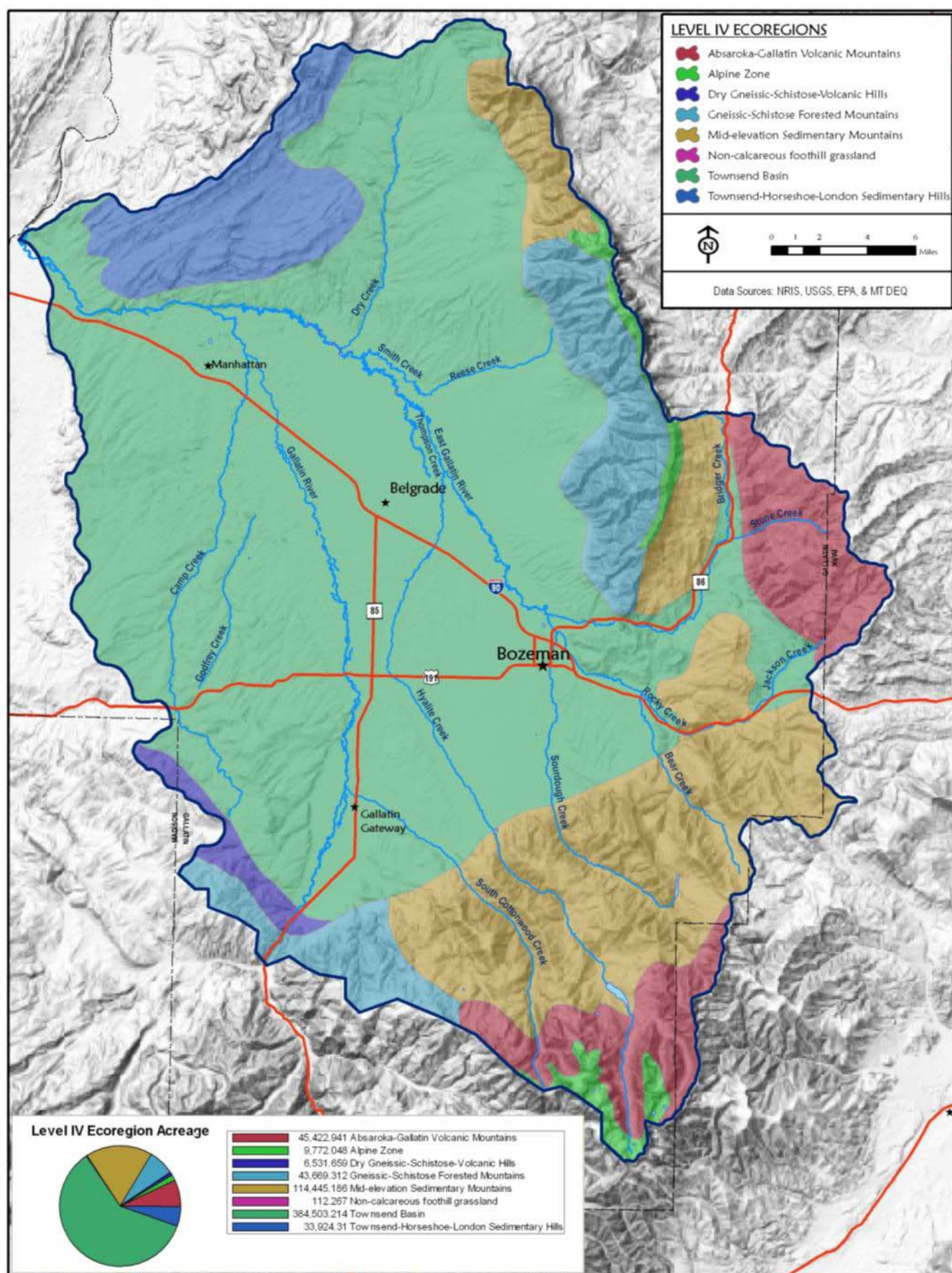


Figure A-8. Level IV Ecoregions Found in the Lower Gallatin TMDL Planning Area

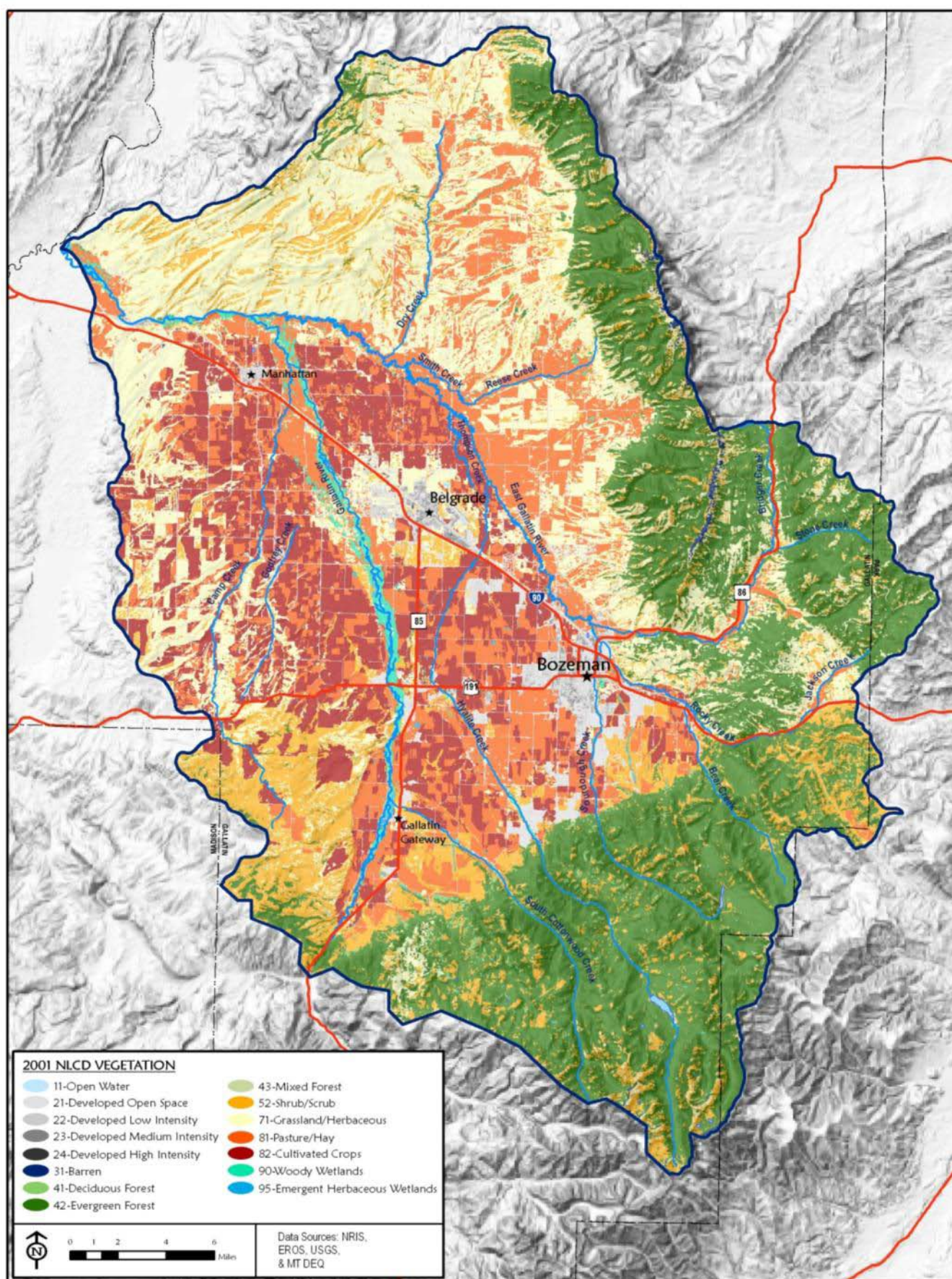


Figure A-9. National Land Cover Data Vegetation Types in the Lower Gallatin TMDL Planning Area

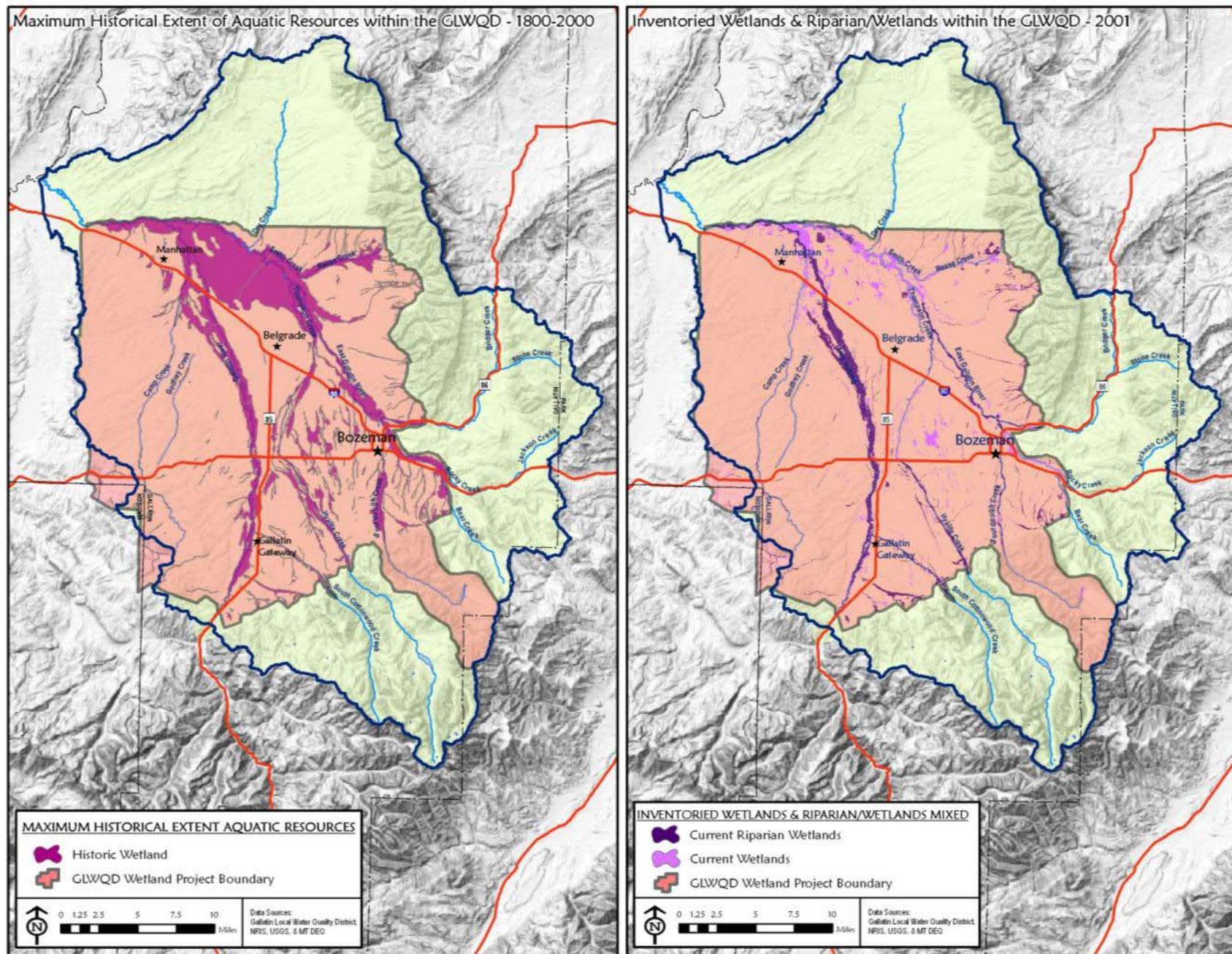


Figure A-10. Riparian/Wetland Areas in the Gallatin Local Water Quality District

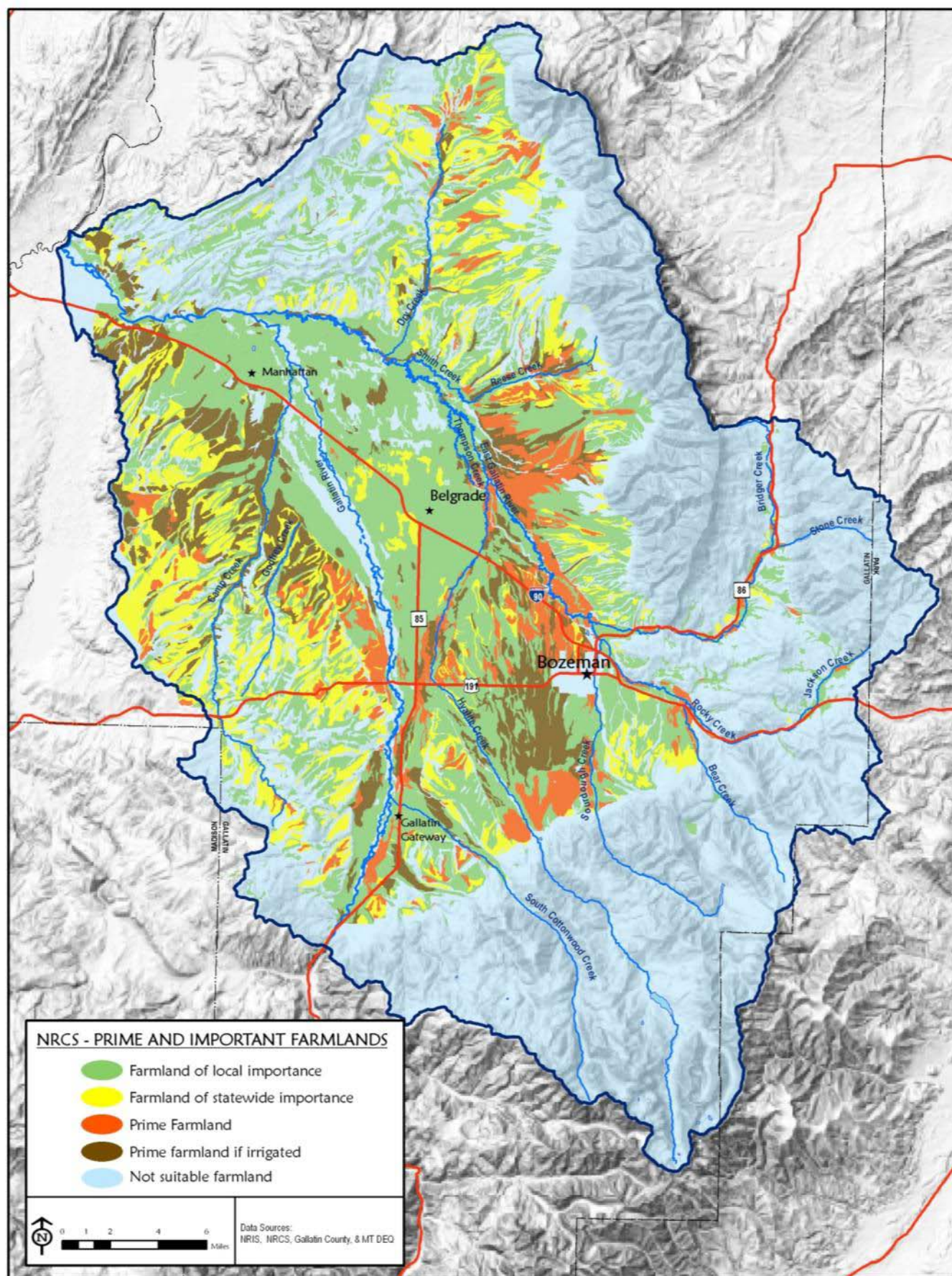


Figure A-11. Prime and Important Farmlands in the Lower Gallatin TMDL Planning Area

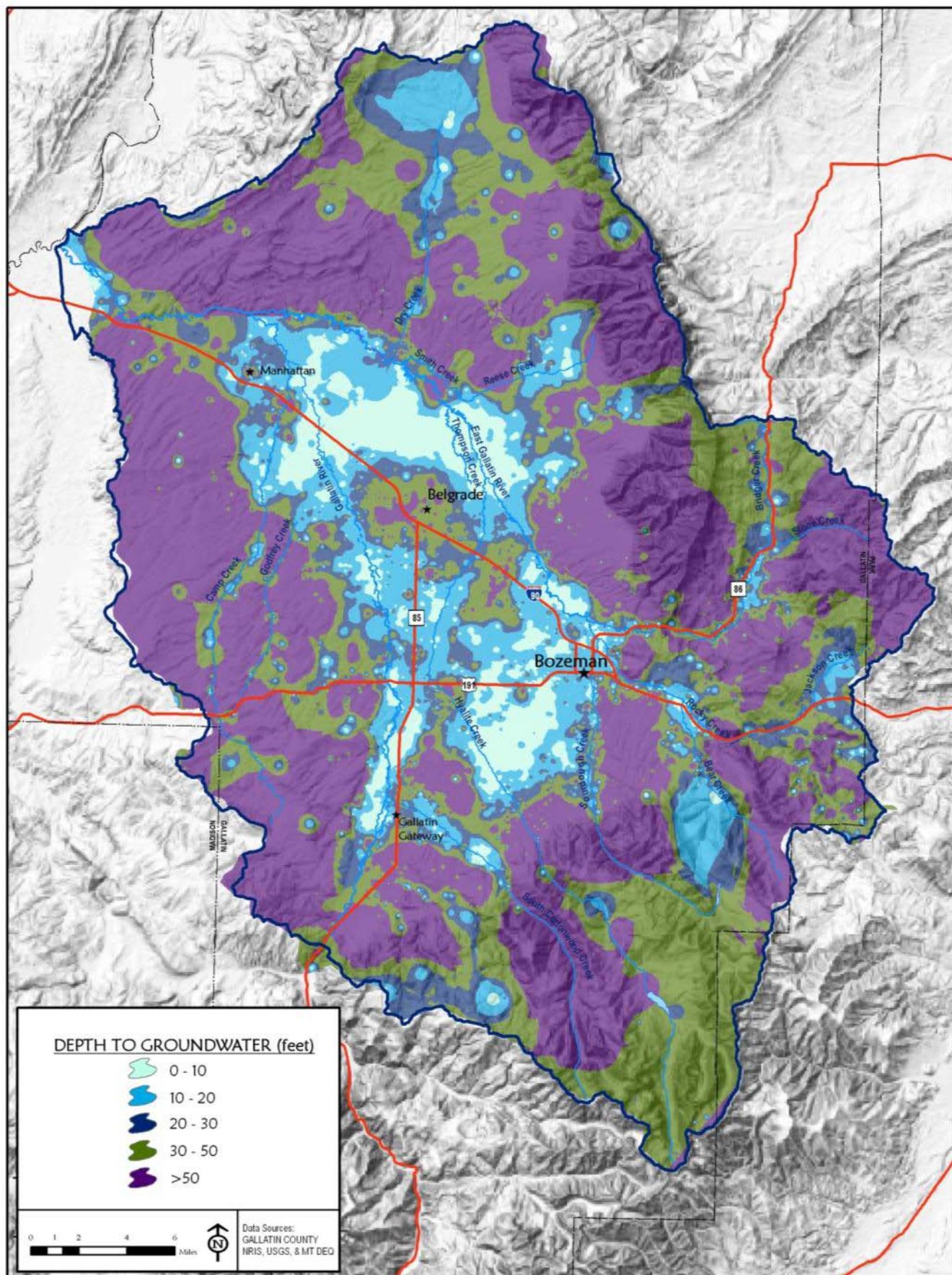


Figure A-12. Estimated Average Depth to Ground Water Based on Static Ground Water

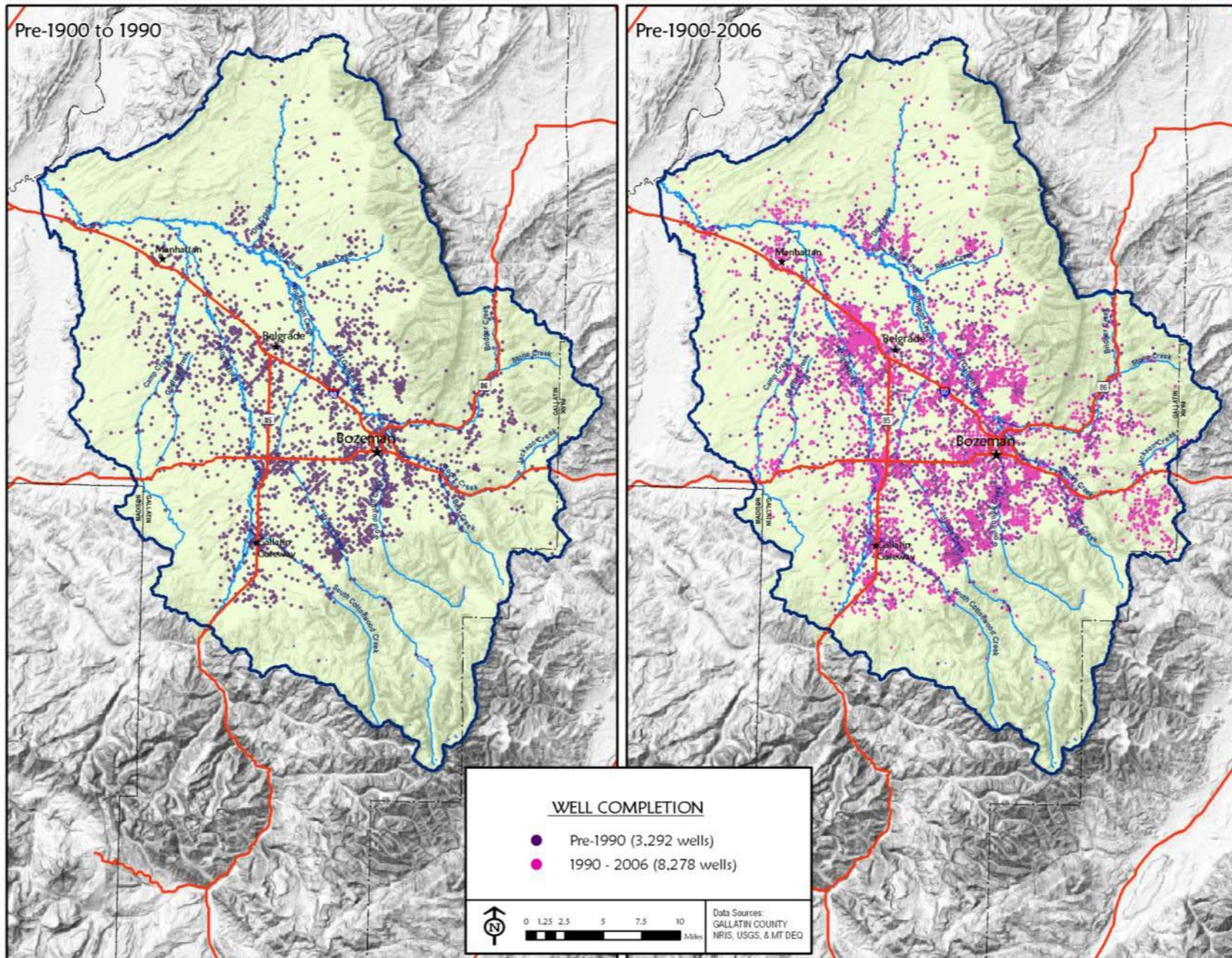


Figure A-13. Changes in the Number of Ground Water Wells Installed Over Time in the Lower Gallatin TMDL Planning Area

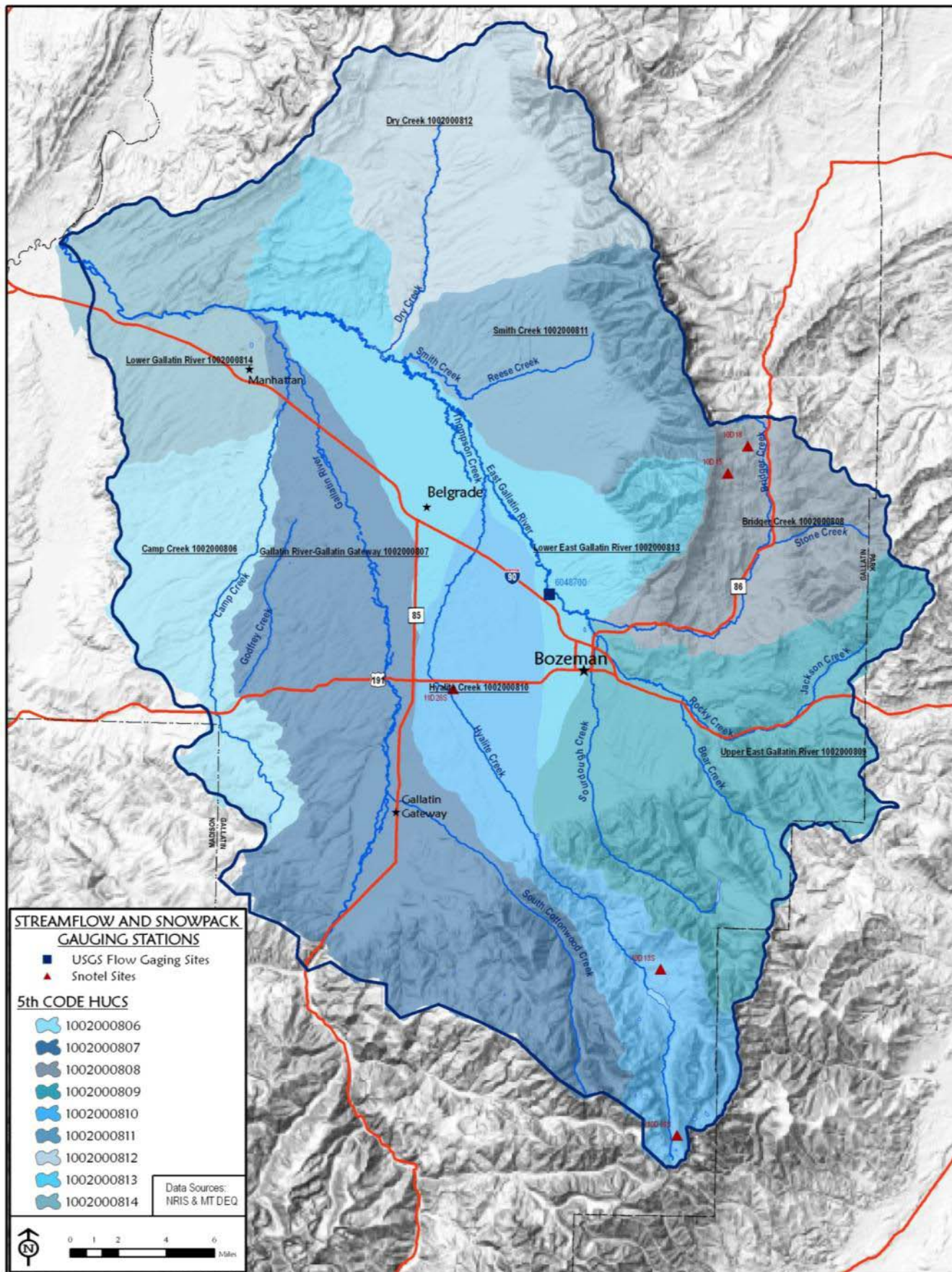


Figure A-14. Fifth Code Hydrologic Unit Code Areas, SNOTEL Stations and Stream Gaging Locations

Figure A-15. Controlled Ground Water Areas in the Lower Gallatin TMDL Planning Area

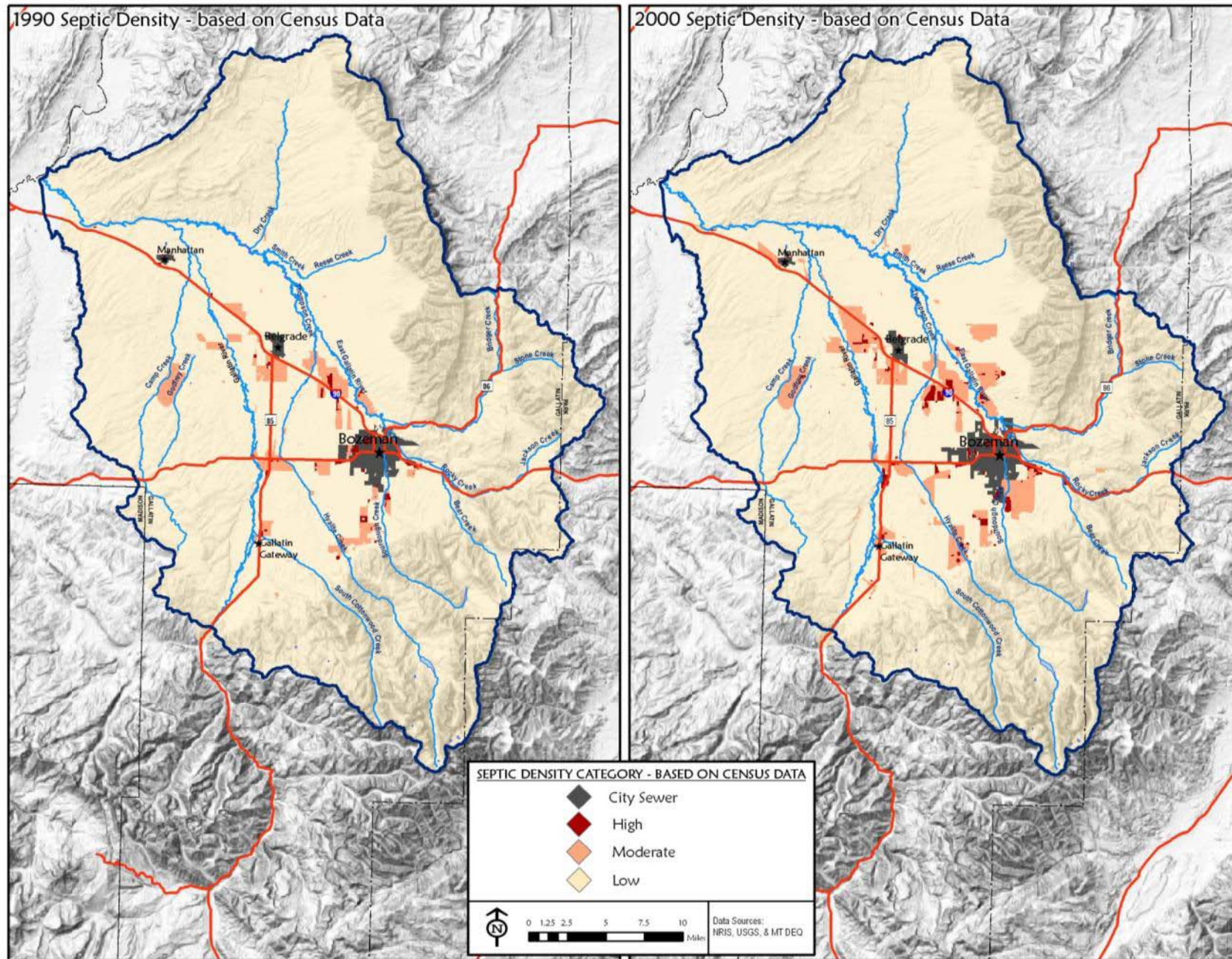


Figure A-16. Changes in Septic System Densities between 1990 and 2000 in the Lower Gallatin TMDL Planning Area

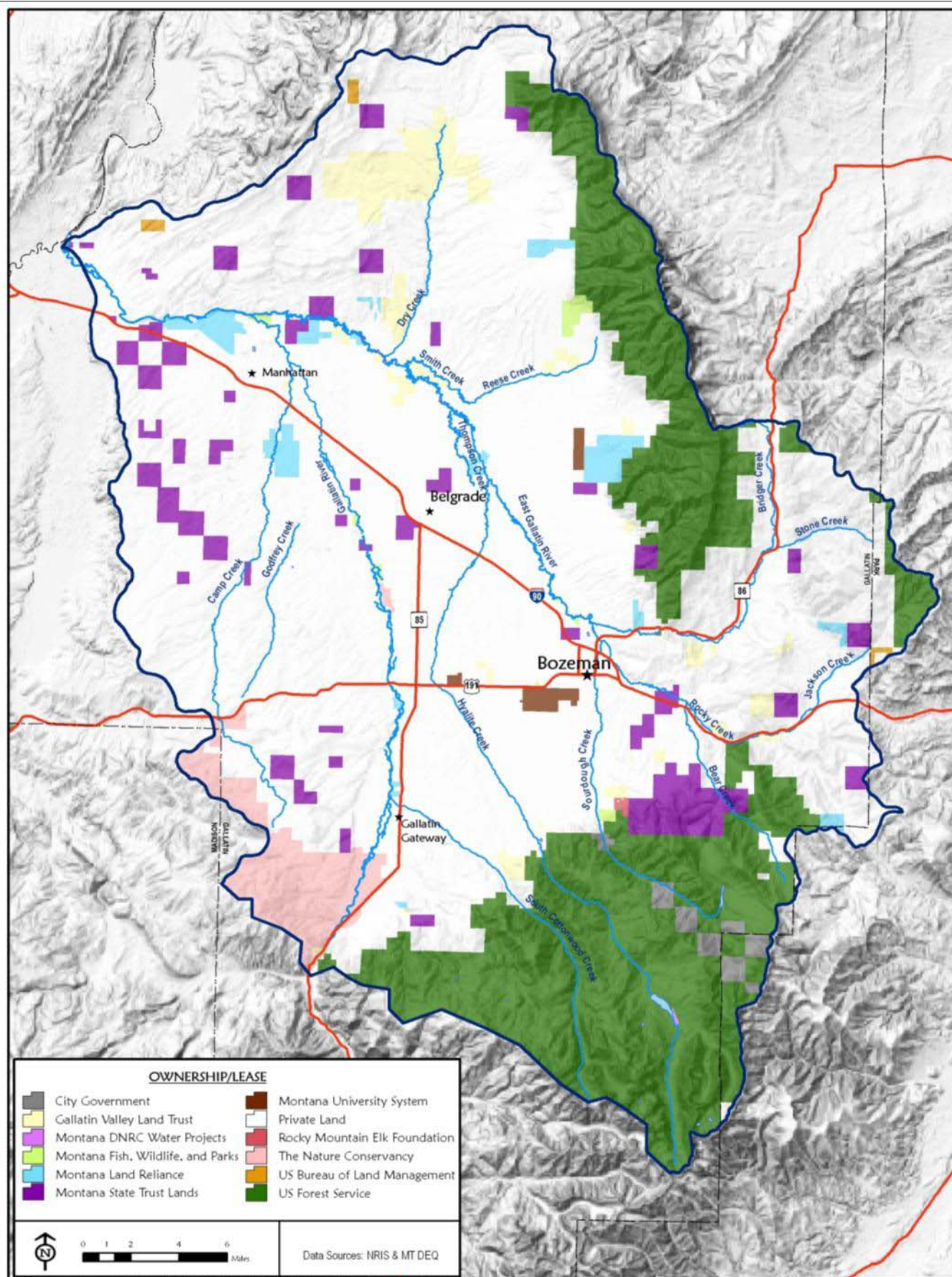


Figure A-17. Land Ownership within the Lower Gallatin TMDL Planning Area

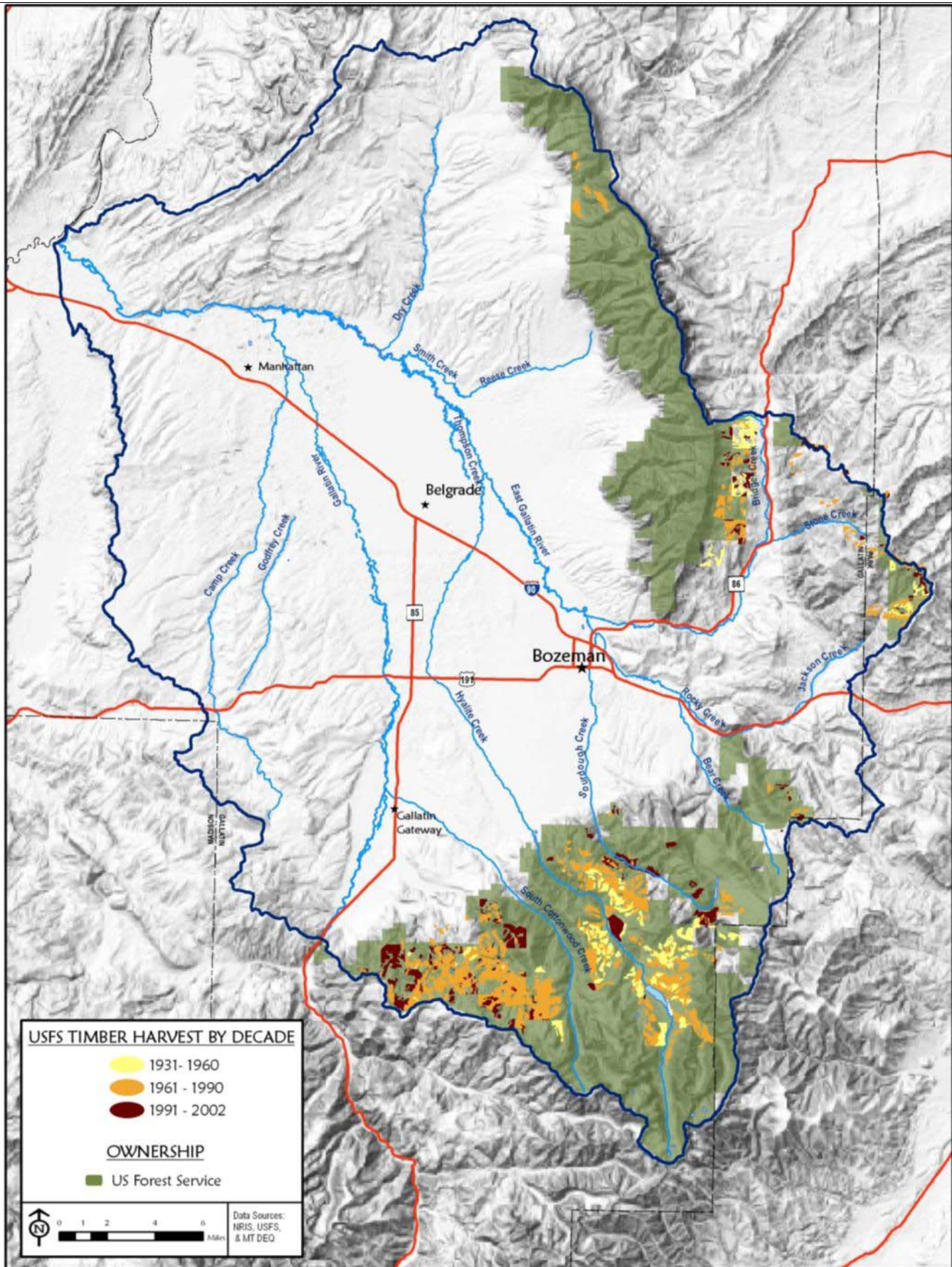


Figure A-18. Timber Harvests within the Lower Gallatin TMDL Planning Area

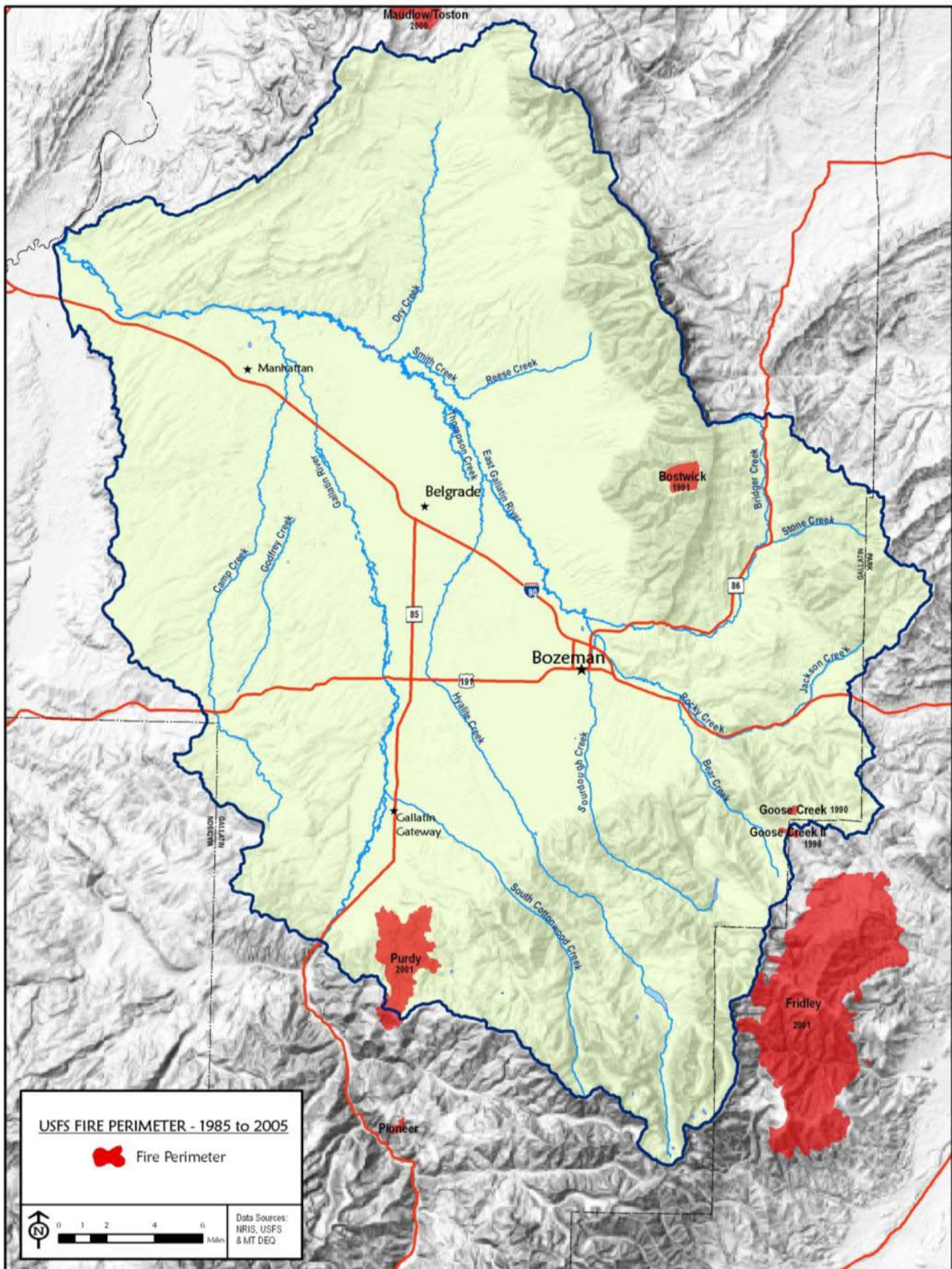


Figure A-19. Historic Wildland Fires within the Lower Gallatin TMDL Planning Area

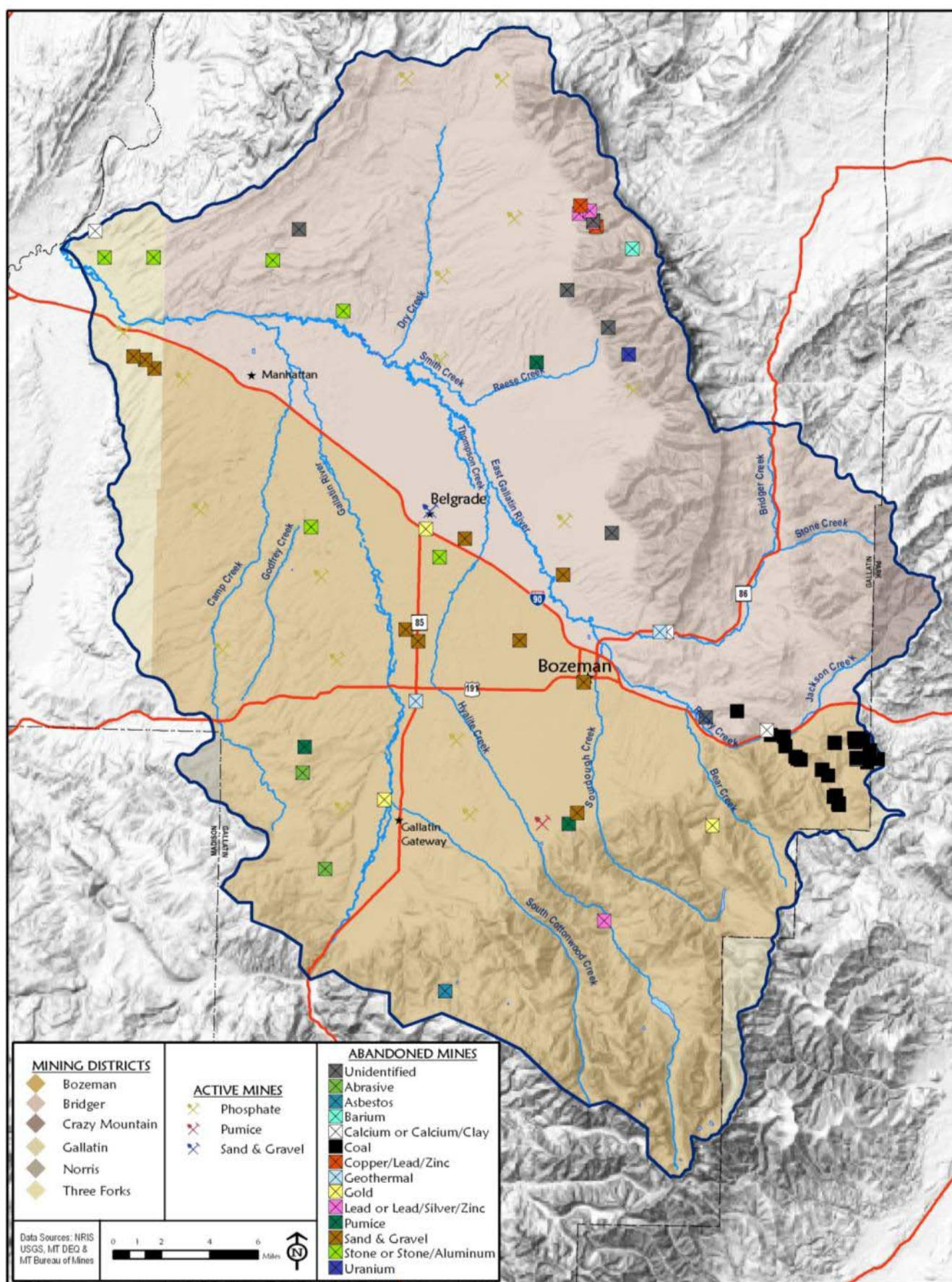


Figure A-20. Active and Abandoned Mines within the Lower Gallatin TMDL Planning Area

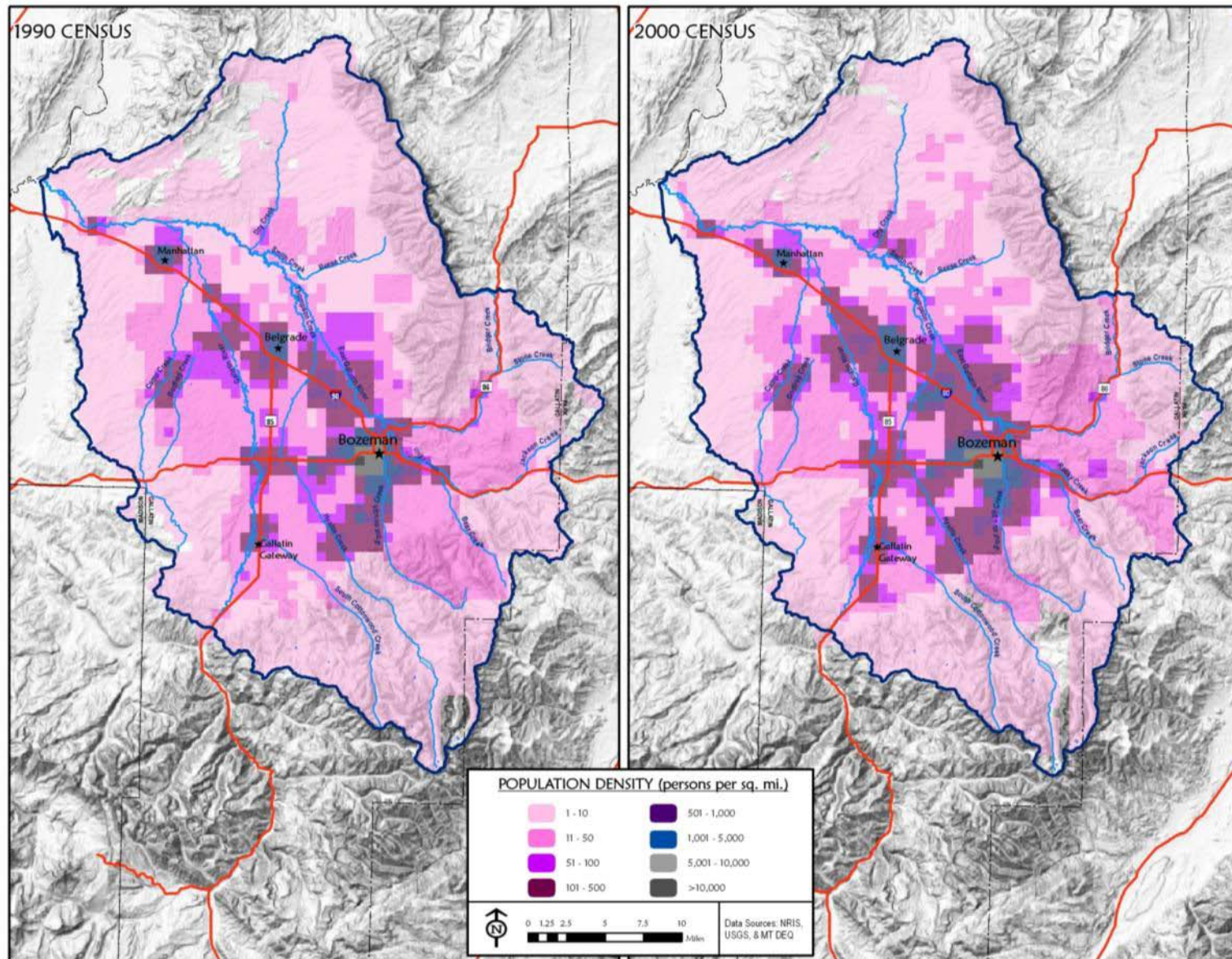


Figure A-21. Changes in Population Density between 1990 and 2000 in the Lower Gallatin TMDL Planning Area

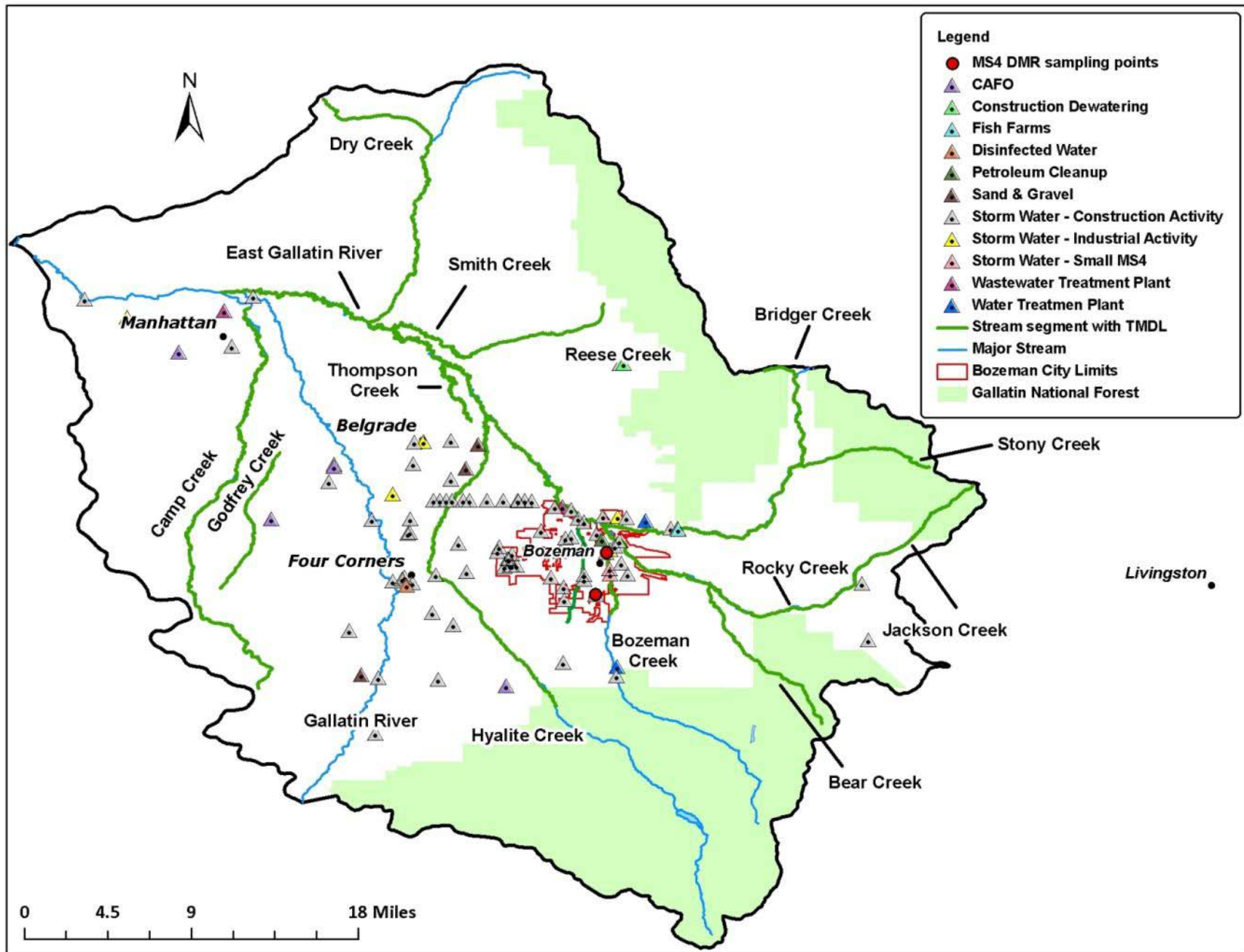


Figure A-22. Location of active Montana Pollutant Discharge Elimination Systems as of March 19, 2012